

ABSTRACT

A projection optical system guiding and projecting a light beam from a projected object surface onto a projection surface in an upstream-downstream direction through a transmission dioptric system and a reflection dioptric system of one or two reflecting mirrors. An intermediate image surface of the projected object surface is positioned closer to the reflection dioptric system than to the transmission dioptric system, and an intermediate image on the intermediate image surface is formed as the final image on the projection surface via the reflecting mirrors, which include at least one anamorphic polynomial free-formed surface having different vertical and lateral powers. A light beam from the reflection dioptric system to the projection surface is guided at an angle to a normal of the projection surface and the transmission dioptric system is decentered with respect to a normal of the projected object surface, the transmission refractive elements prevented from being decentered with respect to each other.